



Your ref : 692.87392
Application No: GB0508672.3
Applicant : World Properties, Inc.

Examiner : James Hull
Tel : 01633 814721
Date of report : 23 August 2005

Latest date for reply: 23 December 2005

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Patents Act 1977

Examination Report under Section 18(3)

Basis of the examination

1. In the examination of your application I have taken account of the pages 25 & 26 you filed with your agent's letter of 26 April 2005 to amend the application as it was printed by WIPO during the international phase.

Inventive step

2. The invention as defined in claims 1, 2, 5, 6, 8, 10, 11, 14, 15, 27 & 28 is obvious in view of what has already been disclosed in the following documents:

EP 0865905 A3 (SUMITOMO)
EP 0890615 A1 (DAINIPPON INK AND CHEMICALS)
US 5114612 A (USA DEPT OF ENERGY).

3. EP0865905 shows that it is well known for liquid crystal polymers to be used in electronic laminates. The laminates are provided with a metallic (e.g. copper) foil which acts as a conducting layer.

4. EP0890615 and US5114612 give examples of chemicals that can be used in such liquid crystal polymers. The former discloses the use of phenylene dimaleimide. The latter discloses the use of maleimides, nadimides and phenylenes. When considering either of these documents in combination with EP0865905, claims 1, 2, 5, 6, 8, 10, 11, 14, 15, 27 and 28 would all appear to lack the required inventive step.

Conciseness 14(5)(b)

5. Your claims are not considered to be concise as required by Section 14(5)(b). Claims 1, 10 and 15 all appear to be very similar in scope and the differences therein could be the subject of appendant claims. Please see the 'Code of Practice' point 1(a) to (e).

Plurality of invention

6. Your claims define a number of separate inventions not forming a single inventive concept. The inventions are:



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[Examination Report contd.]

- a) A circuit (and material or laminate) comprising a conductive layer and a dielectric layer having a **cross-linkable** liquid crystalline polymer comprising phenyl maleimide groups, nadimide groups or phenylacetylene groups, and a method of production, as per claims 1 to 18 (and 30 to 33).
- b) A multilayer circuit having a **resin coated** conductive layer disposed on a **flowable dielectric material** and a **diclad circuit**, as per claims 19 to 22 (and 33 & 34).
- c) A multilayer circuit having **first and second diclad circuits** and a **bond ply**, as per claims 23 to 26 (and 34).
- d) A **B-staged** circuit material having **partially cross-linked** groups, as per claims 27 and 28 (and 35).
- e) A circuit material having groups which **crosslink at a temperature which is at least 20 degrees greater** than the melt temperature of the liquid crystalline polymer, as per claim 29 (and 30 & 35).

You will need to amend your claims, so that they relate to only one invention or inventive concept. You will also need to make consequential amendments to the description. You may wish to consider filing divisional applications. Any such applications should normally be filed no later than 3 months before the expiry of the period for putting the present application in order.

Clarity

- 7. It would appear to be vague to use the term 'about' when defining a minimum value in claim 29.
- 8. The word 'is' after 'temperature' in claim 29 would appear to be a typing error.
- 9. The Statement of Invention in paragraph [0009] of the Description (page 3) should be amended so that it is consistent with the scope of claim 1. For example the word 'preferably' (line 3) should not be used to describe features that are present in claim 1.

Updating of search (Section 17(7))

- 10. Due to the uncertainty over the scope of the claims, the updating of the search (see MOPP 17.115) has been deferred until amendments to the claims have been received.